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IS 8006 (1988): Recommendations for handling of timber  
pallets [TED 12: Freight Containers and Pallets]

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Invent a New India Using Knowledge



**“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”**

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”





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*Indian Standard***RECOMMENDATIONS FOR HANDLING OF TIMBER PALLETS***( First Revision )*

**1. Scope** — Recommends the procedure to be followed in safe handling and use of pallets during loading, transporting and storing them.

## **2. Terminology**

**2.1** For the purpose of this standard, the definitions given in IS : 3971-1976 'Glossary of terms on pallets (*first revision*)' along with the following shall apply.

**2.1.1 Pallet handling truck** — A truck with two elevating type fingers (forks) operated by mechanical linkage or hydraulic pump to enable pallet to be elevated just clear off the ground for movement.

**2.1.2 Pallet stacking truck** — A truck fitted with mast, forks and elevating mechanism capable of transporting, raising and lowering pallets for the purpose of stacking.

**2.1.3 Vacuum-pack** — A pack in which the air has been withdrawn from the pack before sealing it.

## **3. Loading**

**3.1** For making pallet load, the pallets conforming to IS : 4300-1967 'Specification for box pallets for through transit of goods', IS : 7276-1979 'Specification for non-expendable pallets (*first revision*)' and IS : 9340-1979 'Specification for expendable pallets' shall be used.

**3.2** Each type of merchandise shall be palletized to its own pattern designed to achieve maximum stability and safety of the goods handled, taking into consideration the safe working load and dimensions limits set. A degnate and correct strapping/fastening shall be used for various cargos.

**Note** — Bag cargo which has specially to be exported in palletized form shall be vacuum packed with side bag walls so that it gives a flat top surface and does not get loosened during transportation.

**3.3** Where the pallet load consists of mixed goods, care shall be taken to place heavier packages at the bottom.

**3.4** The top of the pallet load shall be levelled off to allow other goods to be safely stowed over it, where necessary.

**3.5** The pallet shall be loaded uniformly as far as it is reasonably practicable, so as to avoid damage resulting from the movement of load during handling and transportation.

## **4. Handling ( Including Stacking )**

**4.1 General** — In every operation, care shall be taken to ensure that the handling equipment is suitable for the load and is used in accordance with the manufacturer's recommendations.

**4.2** Pallets shall not be pushed with forks which can cause damage or involve the risk of toppling the pallets.

**4.3** Forks should be horizontal when entering into and withdrawing from the pallets. Forks inserted at an angle cause the tips of the forks to dig into the top deck boards causing such parts of the pallet to break off, the fork heels can graze the bottom deck boards. After forks have been inserted correctly, a pallet should be picked up and then tilted backwards. Regular checks should be made for bending and distortion of forks.

**4.4** A firm level surface ( maximum gradient 1 percent ) should be provided, clear of obstructions and projections which might damage the lower deck of the pallet. Pallet should not be placed on uneven surfaces.

**4.5** If the forks are longer than the narrow dimension of the pallet ( that is, designed to handle two pallets simultaneously ) then the pallet stop should be fitted which will enable a single pallet to be handled in the recommended manner without forks protruding beyond the one pallet. The pallet stop should be retractable and fitted to the fork carriage of the truck in such a manner that, in the retracted position, it will not foul any moving parts.

**4.6** Lifting and handling should be carried out with the forks of the handling equipment inserted into the space beneath the pallet specifically designed for this purpose. Forks should intend into the pallet to a distance of at least 75 per cent of the dimension parallel to the fork, but should not protrude from the opposite side ( see 4.2 and 4.3 ).

**4.7** Care should be taken to avoid damage when handling pallets, for example, by raising and lowering them carefully, not dragging them over the ground or over other pallets, and by careful driving to avoid collisions.

**4.8** Front-supported carriers ( such as pallet trucks, narrow gauge stackers ) are not always suitable for lifting all types of pallets. Narrow arm stacking trucks and reach trucks are generally suitable for lifting pallets without a base plate of four-way-entry pallets with an incomplete perimeter base which are used as only two-way-entry pallets. Where a narrow arm stacker can lift on the carriage, no high lifting can be done. With hand pallet trucks lifting outside a pallet profile frequently causes pallet damage.

**4.9** The operator/driver should fully lower the forks of a truck and immobilize it before leaving it for any purpose and 'trail' the load rather than 'push', wherever possible.

## **5. Positioning of Loaded Pallets on Vehicles**

**5.1** When loading pallets on vehicles for transportation, the sequence of loading should be from front to rear of the vehicle from alternate sides where possible, ensuring that each pallet is loaded squarely with the preceding ones.

## **6. Interchange between different Transport Media**

**6.1** When goods on containers are affected by water absorption, care should be taken not to use wet pallets.

**6.2** When goods arrive on pallet for loading on ships, they shall be transferred by use of flat slings for 4-way pallets and/or road, or step sling shall be used for offshore or wing pallets. The slings shall have flat bearing surface of minimum 30 mm width and shall go under the deck board.

**6.3** Length of the slings should be considerably long so that the cargo on the deck-board of the pallet and the edge-board are not damaged. Step sling is preferable for lifting the pallets by crane or derricks.

**6.4** At the time of lifting the pallets by cranes or derricks, it should not slant on any of the sides. It is suitable to attach the sling with the pallets at 60° angle.

## **7. Maintenance**

**7.1** All pallets should be handled carefully at all times and shall not be dropped from a height, specially on to their corners.

**7.2** They shall be stacked ( preferably under cover in a dry, well-drained area not exposed to rain or excessive sunlight ) in such a manner as to allow rotation or use.

**7.3** It is the pallet user's responsibility to ensure that all equipment in use are properly maintained and to withdraw from the system anything considered unsafe.

**7.4** Pallets shall be examined for damage by all users on delivery when loaded. Where a damaged pallet is found, it shall not be used and shall be isolated. The damaged pallets shall be marked at diagonally opposite vertical sides of the top corners with Post-Office red paint ( No. 538 ) specified in IS : 5-1978 'Colours for ready mixed paints and enamels (*third revision*)'. The size of the mark shall be 100×100 mm ( see Fig. 1 ).

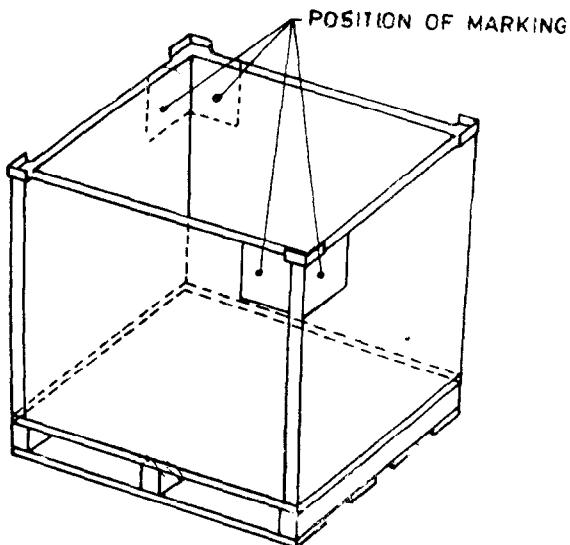


FIG. 1 MARKING ON DAMAGED PALLET

## 8. Staff Training

**8.1** All personnel involved in the handling of pallets should be properly trained in correct procedures for their loading, and in the operation of pallet handling trucks, in accordance with the manufacturer's instructions.

**8.2** Only trained/experienced personnel should operate pallet stacking trucks.

## E X P L A N A T O R Y N O T E

Pallets can have a longer working life if they are handled with reasonable care, and small defects are repaired immediately. Regardless of strength and durability, any pallet may break or damage by mishandling.

This standard was first published in 1976 recommending the procedure to be followed in efficient handling of goods by the medium of pallets. The revision of this standard has been felt necessary to clarify the intent of the standard and to make it more useful.

In the preparation of this standard, assistance has been derived from BS 6407 : Part 2 : 1984 'Cage pallets for retail use : Part 2 Guide to the safe handling and use of collapsible cage pallets rated at 300 kg', issued by the British Standards Institution ( BSI )